

S I X T H

ANNUAL ANNOUNCEMENT

OF THE

POLYTECHNIC COLLEGE,

OF THE

STATE OF PENNSYLVANIA.

SESSION 1858-59:

AND

CATALOGUE OF THE OFFICERS AND STUDENTS.

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ENGINEERING, MINING, AGRICULTURE,

AND

CHEMICAL AND MECHANICAL ARTS.

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PHILADELPHIA:  
COLLINS, PRINTER, 705 LODGE ALLEY.  
1858.



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HENRY C. ECKSTEIN, B. CH.  
DEMONSTRATOR OF CHEMISTRY AND INSTRUCTOR IN PREPARATORY DEPARTMENT.

## Announcement.

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THE Faculty of the Polytechnic College of the State of Pennsylvania, have the honor to announce their Sixth Annual Course of Instruction, and to tender their acknowledgments to the many friends of Industrial Education throughout the Union, for the lively interest manifested in the success of the first American Polytechnic College. The necessity of establishing upon our own soil an Institution similar to those, to which Continental Europe owes so much of her progress and her present perfection in the Industrial Arts, has forced itself upon every intelligent American mind, and the Officers of the College have labored so to perfect their Courses of Instruction and means of Illustration, that henceforth, no young Civil or Mine Engineer, Chemist, Mechanician, Furnace-master, or Student of Applied Science, will be necessitated to suffer the inconvenience and expense of a trans-Atlantic voyage and residence, in order to perfect himself in his destined calling. He will now find at home an institution abounding in facilities for thorough scientific and practical instruction.

The Polytechnic College was incorporated by the Legislature, in 1853. It has been organized agreeably to a plan submitted by the President of the Faculty, after his minute personal examination of the best Mining and Polytechnic Institutions of Continental Europe. The plan, which has proved itself admirably adapted to the requirements of the American student, comprises a Preparatory Department and five technical Schools: The School of CIVIL ENGINEERING, the School of MECHANICAL ENGINEERING, the School of MINES, the School of CHEMISTRY, and the AGRICULTURAL School. The first four are in full and successful operation; the fifth, although complete in its scientific instruction, is, for want of the requisite means, yet unprovided with a model Farm.

The location of the College is believed to be no less happy than its plan of instruction. Philadelphia, in the value and variety of her manufactures, is without a rival on this continent. Her Civil and Mechanical Engineers enjoy an enviable reputation, even beyond the seas; her workshops and foundries afford all needed

opportunity for the inspection of the best applications of machinery to the working of the raw material, and to the more delicate branches of manufacture; her contiguity to mines, and her railroad communication with them, present eligible practical facilities to the student of Mining and of Engineering. Here, therefore, the sciences which bear upon the great and multiplied arts of civilization receive their most powerful impulse; and here are centred interests which mark Philadelphia as the proper seat of the first Industrial College of the Union.

These peculiar privileges of location will, as far as practicable, be made available to all who pursue the College course of education—an education, solid, elevated, and usefully applicable in all the higher departments of construction and of production—one which provides for a wider field of honorable employment than any which has hitherto been afforded in America, and which is moreover the best preparation for the multiplied business duties which, in this age and country, devolve on every man of intelligence and enterprise.

The plan of education is faithfully carried out by daily instruction and illustration, followed by examinations in all the Departments; and the Professors will call to their aid a well furnished analytical Laboratory, extensive Apparatus, Models, Cabinets of Art and of Minerals, Diagrams, and other means of illustration.

## ACCOMMODATIONS.

The College edifice, corner of Market Street and West Penn Square, is situated in the centre of the city, and opposite Penn Square, a pleasant and healthful place of resort during the greater part of the year.

The building is well adapted to the extensive course of instruction, provided for in the liberal plan of education adopted by the Trustees.

The ground floor contains the Analytical Laboratory, arranged on the German plan, and provided with furnaces, apparatus, tests, and reagents, for the performance of metallurgic processes, of the operations illustrative of the principles of the science, and of the analysis of organic and inorganic compounds. Arrangements may be made for practical instruction in any branch of Chemistry. Parties requiring analysis, may rely upon scrupulous accuracy and full and early reports.

The Lecture Room, and the Class Rooms of the Professors, are comfortably seated and well ventilated.



The Geological and Mineralogical Cabinets contain a set of Crystal Models, from Vienna, showing the various forms of crystals which occur in nature and among the products of art; an instructive series of specimens illustrating the characters of ores and minerals used in the arts; and a collection arranged according to Geological position, each formation in which fossils occur being represented by those which are characteristic. Extensive and valuable additions to the Cabinets are constantly being made by exchange and purchase. A select and valuable collection, brought together without regard to cost, by a devoted mineralogist, during many years' residence in Europe, has been purchased and placed in the cases. Two excellent suites of specimens, fully illustrating the Geology and Mineralogy of Berks and of Delaware Counties, Pa., have recently been donated to the College—the former by Dr. P. G. Bertolet, of Oley, Berks. and the latter by Dr. George Smith and other members of the Delaware County Institute of Science.

The Drawing Room has the advantage of being lighted from the roof, and, under Prof. KERN, affords superior facilities for studying the ART OF DESIGN in any of its departments.

### Admission.

Candidates for admission to College at the First Session of the Regular Course are examined in the English branches, including the first four books of Geometry (Legendre), and Algebra, through Equations of the first degree.

Applicants who are not sufficiently advanced may enter the Preparatory Department (see page 2 of cover), and be rapidly fitted for the College courses.

Candidates for advanced standing will be examined on all the studies previously pursued by the members of the class to which they aspire.

Bachelors of Arts, graduates of respectable colleges, may enter the second year course in any of the technical schools, and become candidates for the degree in that department at the expiration of one year.

Students who wish to attend *partial courses* are admitted without previous examination. Portions of the instruction in any department may be pursued for one or more sessions. Gentlemen may therefore be prepared fully or partially for any of the Industrial Professions; and *Assistant Engineers*, when off duty during the winter session of the College, may perfect themselves in those branches of

their profession in which they are deficient. Certificates of attendance and proficiency may be granted to partial course students after examination.

## DEPARTMENTS AND DEGREES.

In the technical schools of the Polytechnic College, theory and practice are so combined as to insure to those who enjoy the honors of our Diploma the entire confidence of employing parties and of companies engaged in works of improvement. Our graduates are successfully practising their professions in the United States, Europe, and the West Indies.

To entitle a student to the degree of Bachelor in any of the departments, he must have complied with the following conditions, to wit: He must have pursued the courses of study prescribed under the head of that department; he must have composed and delivered to the President of the Faculty a Thesis on a subject appertaining to the technical course which he is pursuing, accompanying the thesis with plans and elevations, when necessary for the elucidation of the same; he must have paid all his College fees, including the graduation fee; and he must have passed a satisfactory oral and written examination. In particular cases, and with the consent of the Faculty, certain studies may be substituted for others. Due credit will always be given for studies prosecuted in advance of position.

In case of the failure of a candidate, his graduation fee will be returned to him, but his essay will be retained by the Faculty.

The Master's degree will be conferred in course on Bachelors of three years' standing, who have sustained a good moral character, and have devoted themselves to the practice of one of the technical professions.

### **School of Civil Engineering.**

The prescribed course on CIVIL ENGINEERING, while it compels the acquisition of no extraneous knowledge, renders all those studies obligatory which are necessary to the education of the thoroughbred Engineer.

Students pursue Mathematics as applied to Engineering. They are practised in Mechanical, Architectural, and Topographical Drawing, and in the field with the Instruments; and they are taught the most approved principles and methods involved in the construction of Roads, Bridges, Buildings, and Public Works, and in the application of propelling power.



*For the Degree of Bachelor of Civil Engineering.*

## FIRST YEAR COURSE.

Mathematics.<sup>1</sup>  
 General Chemistry.  
 General Physics.  
 General Mechanics.  
 Field Practice (Commenced).  
 Drawing (Topographical).  
 Mineralogy.

## SECOND YEAR COURSE.

Mathematics, Civil Engineering,  
 and Practice.  
 Geology.  
 Applied Mechanics.  
 Architecture.  
 Industrial Physics.  
 Drawing (Topog. and Architectural).

**School of Mechanical Engineering.**

In this department the class are conducted through a full course on Mechanical Philosophy and the Principles of Machinery; on the sources of Mechanical Power, Air, Water, Steam, Electro-Magnetism, &c.; on the Telegraph; on the location and construction of Engines, Furnaces, Foundries, &c. This course is elucidated by Models, Machinery, Diagrams, and Experimental Apparatus.

*For the Degree of Bachelor of Mechanical Engineering.*

## FIRST YEAR COURSE.

Mathematics.  
 General Chemistry.  
 General Physics.  
 General Mechanics.  
 Drawing (Mechanical).  
 Mineralogy.

## SECOND YEAR COURSE.

Geology.  
 Construction of Machines.  
 Metallurgy.  
 Applied Mechanics.  
 Industrial Physics.  
 Drawing and Architecture.

**School of Mines.**

To supply the State and Union with a liberally endowed School of MINES, has been, and continues to be, a leading object of the Institution. This department will therefore be provided with the most ample means of illustration, to wit: Sections of Mines, Geological and Mineralogical Cabinets, and Models of Machinery used in Elevating, Crushing, and Screening.

Full courses of instructions are given on the form, structure, constitution, and classification of Minerals; on Geological Exploration, on the Carboniferous, Metalliferous, Saliferous, and other Rocks; on Economic and Agricultural Geology, Springs, and Artesian Wells; on Drifting, Draining, Ventilating, and Working Mines, &c.

*For the Degree of Bachelor of Mine Engineering.*

## FIRST YEAR COURSE.

Mathematics.  
 General Chemistry.  
 General Physics.  
 General Mechanics.  
 Mineralogy.  
 Drawing.

## SECOND YEAR COURSE.

Geology and Mineral Analysis.  
 Mine Engineering.  
 Applied Mechanics.  
 Metallurgy.  
 Industrial Physics.  
 Drawing.

**School of Chemistry.**

In the Department of CHEMISTRY, the course comprehends the Principles of the science, and their application to Agriculture, to the

<sup>1</sup> For further details, see "Summary of the Studies," page 11.

Arts, and to Analysis; to the examination and smelting of Ores; to the alloying, refining, and working of Metals; to the arts of Dyeing and Pottery; to the Starch, Sugar, Lime, and Glass manufacture; to the preparation and durability of Mortars and Cements; to means of disinfecting, ventilating, warming, and lighting. Students are practised in Manipulations, Testing in the Arts, Qualitative and Quantitative Analysis of Minerals, Soils, &c.

*For the Degree of Bachelor of Chemistry.*

FIRST YEAR COURSE.

General Chemistry.  
General Physics.  
Mineralogy.  
Geology.  
Laboratory Practice.

SECOND YEAR COURSE.

Industrial Chemistry.  
Analytic Chemistry (Practice).  
Agricultural Chemistry.  
Industrial Physics.  
Metallurgy.  
Natural History (Plants).  
Drawing, or a Modern Language.

PRACTICAL CHEMISTRY.

Students who enter for Special Laboratory Instruction and Practice will receive individual attention, and enjoy all the privileges of the department, during the entire daily session. As each works independently of his fellow-student, he is at perfect liberty to pursue that course of experimental research which may be demanded by his taste or his future pursuits, be it the examination of Manufactured Products, the Analysis of Earths, of Metallic Ores and Poisons, of Soils, of Seeds and other Vegetable Substances, of Healthy and Morbid Animal Fluids, etc.

	Per Month.	Per Qr. of 3 Months.
Students working every day in the week . . .	\$20 00	\$50 00
" " every other day in the week . . .	15 00	37 50

All fees payable in advance. Students may enter whenever there is a vacancy. Each will be expected to provide himself with a mouth Blow-pipe, and Platinum Wire, Foil, and Crucible. Gas, Fuel, Alcohol, Reagents, and Apparatus will be supplied without extra charge, save for the breaking of glass-ware.

**Agricultural School.**

The instruction in this department is designed to run parallel with practice in farming operations. The means of reaching and leaving the city are so multiplied and rapid, that students can inspect and participate in the daily duties of the farm, under intelligent agriculturists in the neighborhood of Philadelphia, without interference with College studies.

A Model Farm, convenient to the city, will be connected with this department as soon as arrangements now in progress shall have been completed.

*For the Degree of Bachelor of Agriculture.*

FIRST YEAR COURSE.

Mathematics.  
General Chemistry.  
General Physics.  
General Mechanics.  
Land Surveying.  
Drawing.

SECOND YEAR COURSE.

Mineralogy.  
Geology.  
Agricultural Chemistry.  
Analytic Chemistry.  
Natural History (Zoology and Botany).

## SUMMARY OF THE STUDIES.

**MATHEMATICS.**—*First Year.* Algebra completed; Geometry completed; Mensuration; Plane and Spherical Trigonometry; Nautical Astronomy; Surveying. *Second Year.* Descriptive Geometry—its theory and applications; Analytical Geometry; Shadow and Perspective; Differential and Integral Calculus.

**GENERAL PHYSICS.**—Properties of Matter; Form; Molecular Action; Heat; Steam; Magnetism; Static and Dynamic Electricity; Electro-Magnetism; Acoustics; Light; Photometry.

Students are exercised during the course in determining the specific gravities of solids, liquids, vapors, and gases; in the employment of the Barometer; the construction and use of Thermometers; in the use of the Hygrometer and Photometer.

**GENERAL MECHANICS.**—Laws of Motion and of Equilibrium; Statics of Solids; Hydrostatics; Hydrodynamics.

**GENERAL CHEMISTRY.**—Nomenclature; Laws of Combination; Non-metallic Elements; Metals; Acids; Bases; Salts; Organic Acid, Alkaloid, and Neutral Bodies; Reagents; Testing in the Arts.

There is a weekly exercise in manipulations, during which the students repeat, in the Laboratory, all the important experiments executed by the Professor in the Lecture Room.

**MINERALOGY.**—Crystallography; Form, Structure, Optical Properties, Chemical Characters, and Classification of Minerals.

**GEOLOGY.**—Physical Geography; Study of the Earth's Surface; Influence of the Atmosphere, of Water, of Ice, of Volcanic Action, and of Coral Growth; Geological Periods; American Classifications and Systems of Rocks; Lithological and Palæontological Characters of each Formation; Comparison of it with its English, German, and French Equivalents; Economic Geology; Artesian Wells.

Students will make excursions, with the Professor, into the interesting neighboring localities of Pennsylvania and New Jersey.

**NATURAL HISTORY.**—Organization, Functions, and Classification of Animals; Animal Force, Traction, &c.; Preservation of Meat; Animal Products—Milk, Butter, Cheese, Tallow; Animal Fibre; Bone; Artificial Incubation; Useful Insects and their Products; Insects injurious to Vegetation.

Structural Botany; Relation of Plants to the Soil and the Atmosphere; Classification of Plants; Wood-, Fibre-, Starch-, Sugar-, Tannin-, Oil-, Color-producing Plants; History of Vegetable Substances used in the Arts.

Botanical excursions into the environs will be made during the floral season.

**DRAWING.**—Linear; by the Scale; Shading; Elevations and Plans of Dwellings, Stores, Bridges, Factories, Implements, Apparatus, Machinery, and Public Edifices; Mapping and Plotting; Drawing from the Round; Geological Sections; Plans and Sections of Mines, &c.

**INDUSTRIAL PHYSICS.**—Kinds and Uses of Fuel; their Comparative Value; Structure of Furnaces and Boilers; Transmission of Heat; Refrigeration, Vaporization, Distillation, Evaporation; Heating of Liquids; Warming and Ventilating Houses and Public Buildings.

**APPLIED MECHANICS.**—Statics of Articulated Systems; Rigidity of Chains and Cordage; Effects of Friction and Shock; Dynamometers; Pressure of Water; Aju-tages; Theory of Water Wheels; Machines to raise Water; Blowing Machines.

**CONSTRUCTION OF MACHINES.**—Means used to Impart, Transmit, Modify, and Regulate the Motion of Machines; Properties of Materials used in the Construction of Machines; Flexible and Inflexible Joints; Employment of Formulæ.

Students will visit the large machine-shops with which Philadelphia abounds, and familiarize themselves with the machinery used in the working of metals, &c.

**ANALYTIC CHEMISTRY.**—Ends, Means, and Methods of Analysis; Recognition and Dosing of Non-metallic and Metallic Bodies, Acids, and Bases; Qualitative and Quantitative Analysis of Ores, Limestones, Coals, Mineral Waters, Soils, Manures, and Products of Art; Detection of Poisons; Assaying; Organic Analysis; Soaps; Alcoholic Liquids.

**INDUSTRIAL CHEMISTRY.**—Filtration and Purification of Water; Extraction of Sulphur, Iodine, Starch, Sugar, Salt, Oils, Fats, and Resins; Manufacture of the Mineral Acids, of Soda and Potash and their Salts; of Alum, White Lead, Illuminating Gas, Alcohol, Vinegar, Animal Black, Paper, Soaps, Glass, and Pottery; Tanning, Dyeing, Bleaching, &c.

**AGRICULTURAL CHEMISTRY.**—Vegetable Nutrition; the Constituent Elements of Plants; Source and Assimilation of Oxygen, Hydrogen, Nitrogen, Carbon, and the Inorganic Elements; Rotation of Crops; Marl, Lime, Plaster, Shells, Bone Dust, Guano, Barn-Yard and Street Manures; Green Soiling; Fermentation; Vegetable Mould; Classification of Soils; Residue of Crops; Meteorological Considerations; Draining; Subsoiling; Springs; Irrigation.

**CIVIL ENGINEERING.**—Use of Instruments, Compass, Level, Transit, Theodolite, and the Common, Aneroid, and Thermometric Barometers; Equilibration of Arches; Stability of Foundations on Land and under Water; Principles of Framing, Stone-cutting, Masonry, and Carpentry; Bridging; Dimensions and Strength of Walls, Arches, Pillars, Frames, Trusses, Abutments, and Piers; Locating, Staking Out, Constructing, and Estimating Roads, Railroads, and Canals; Laying Out Curves; Stationary Engines and Locomotives; Culverts, Drains, and Water Works.

Tuesday is field day, when the students are exercised with the instruments.

**ARCHITECTURE.**—Parallel of the Orders; Ancient and Modern Styles; Principles of Design.

**METALLURGY.**—Smelting of Iron; Ore, Fuel, Flux; Qualities of Pig Iron; Puddling, Refining, Forging, Rolling; Employment of Waste Gases and Heat; Blowers; Patterns, Moulding, Casting; Nature and Manufacture of Steel; Metallurgy of Zinc, Lead, Tin, Copper, Silver, &c.

Visits to smelting and other furnaces, in and near the city, will be made from time to time.

**MINE ENGINEERING.**—Geographical Distribution of Mines; Reconnoissance; Order of Exploration; Location of Mines; Mode of Determining the best Position for Openings; Processes of Excavation; Employment of Tools and Powder; Boring; Quarrying; Drifts, Slopes, Shafts, Gangways, Chambers, Galleries, Branches, Workings, Timbering, Shoring; Draining, Ventilation; Davy's Lamp; Faults, Squeezes; Modes of Measuring Mines, inside, outside; Computation of Quantity; Removal of Pillars; Elevating, Crushing, Screening, and Transportation.

Opportunities will be afforded to visit the coal, iron, and other mines in Eastern Pennsylvania.



MODERN LANGUAGES.—French and Spanish Languages and Literature; German Language and Literature.

INDUSTRIAL JURISPRUDENCE, including the Laws of the United States and of Foreign Countries, relating to Patents for Inventions and Discoveries, and to Copyright of Designs.

## Sessions.

The College year is divided into three sessions. The first or Autumnal Session of the year 1858-59 begins on Monday, September 20th, and ends on Friday, November 5th. The second or Winter Session begins on Monday, November 8th, and ends on Friday, March 4th. The third or Spring Session begins on Monday, March 7th, and ends on Thursday, June 30th.

## Terms.

### PAYABLE AT THE COMMENCEMENT OF THE SESSION.

	FIRST YEAR COURSE.	SECOND YEAR COURSE.
Matriculation Fee, paid once only .	\$5 00	
Autumnal Session, full course . .	15 00	\$20 00
Winter           "           " . .	40 00	50 00
Spring           "           " . .	40 00	50 00
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	\$100 00	\$120 00

Graduation fee, \$10. Modern Languages (optional), \$10.

For partial courses, the fees vary from \$10 to \$50 per session, according to the studies embraced.

Before a student can receive a ticket of admission to the lectures of any Professor, it is necessary that he enter his name and post-office address in the College Register, and take his matriculation ticket. It is desirable that students matriculate and obtain their tickets with as little delay as possible after their arrival in the city.

## Examinations.

The aim of each Professor is to render the instruction in his department as thorough as possible. Oral examinations and reviews are held weekly, and oral and written examinations on all the studies at the end of each session.

## General Diploma.

Although it has been provided that students who desire to enter early upon any of the five technical professions above cited may be

prepared therefor in two years, and receive the Degree of that department, yet it is recommended to gentlemen whose time will admit to pursue a three years' course, which will give opportunity to attend all the lectures and practical instruction in all the professional schools, including one or more of the modern languages, and entitles the student, after examination, to the General Diploma of the College, and the degree of Bachelor of Industrial Arts. The graduate is therefore fitted to enter upon any responsible position in connection with mining, manufactures, agriculture, public works, and improvements, to which he may aspire.

### Society.

The Philotechnic Society, composed of students of the College, holds weekly meetings in the College Building, under the sanction of the Faculty, for the purpose of discussing scientific questions, reading essays, &c. At every meeting the members appoint, in rotation, one from their own body to recapitulate the experimental lectures which one of the Professors will give during the ensuing week. These recapitulatory lectures are delivered in the presence of the Professor and the Society. The student is allowed the use of apparatus, and thus is exercised in public speaking, in experimenting, and in imparting the knowledge he has acquired. To all, and especially to those who are preparing to become teachers, lecturers, or professors of experimental science, this exercise is of great advantage.

### Commencement.

The public Commencement for conferring Degrees will be held on the last day of June. The week preceding will be devoted to the annual examination.

### Boarding.

Boarding may be obtained as cheaply in Philadelphia as in any other large city in the Union, and to the scientific student the collateral advantages of a residence here are not equalled elsewhere in America.

Additional information as to terms, courses of study, boarding, &c., may be obtained by addressing

ALFRED L. KENNEDY, M. D.,  
*President of the Faculty.*



# Catalogue.

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AT the annual commencement of the Polytechnic College of the State of Pennsylvania, held in the Lecture Room of the College, on Friday evening, July 2, 1858, an address was delivered by Hon. Henry D. Moore, and the Degrees of the College were conferred by THOMAS A. BUDD, Esq., President pro tem. of the Board of Trustees, on the following Gentlemen:—

## DEGREE OF BACHELOR OF CIVIL ENGINEERING.

WALTER SCOTT, Philadelphia.

*Subject of Thesis.*—Single-span Stone Viaduct, with accompanying designs for the same.

HOWARD McILVAIN, Reading, Pa.

*Subject of Thesis.*—Plan and description of a Timber Railroad Bridge.

## DEGREE OF BACHELOR OF MINE ENGINEERING.

DANIEL R. BROWER, Jr., Norristown, Pa.

*Subject of Thesis.*—The Drainage, Ventilation, and Lighting of Mines.<sup>1</sup>

## FIRST-YEAR-MEN DISTINGUISHED FOR SCHOLARSHIP.

FRANCIS Z. SCHELLENBERG, Minersville, Pa.

DANIEL CARHART, Perryville, N. J.

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## Class of Session 1857–58.

NAME.	POST-OFFICE.	COUNTY.	STATE.
JOSEPH BLAKE,	Raleigh,	Wake,	N. C.
GRAHAM BLANDY,	Newark,	Newcastle,	Del.
*CHARLES W. BODEY,	Norristown,	Montgomery,	Pa.

<sup>1</sup> Published by permission of the Faculty, in U. S. R. R. and Mining Register, Philadelphia, July 31 and August 7th and 14th, 1858.

NAME.	POST-OFFICE.	COUNTY.	STATE.
BENJAMIN R. BRINCKLE,	Philadelphia,		Pa.
DANIEL R. BROWER, Jr.,	Norristown,	Montgomery,	Pa.
JAMES M. BUDD,	Philadelphia,		Pa.
*THOMAS A. BUDD, Jr.,	Philadelphia,		Pa.
DANIEL CARIHART,	Perryville,	Hunterdon,	N. J.
BENJAMIN CLEMENS,	Philadelphia,		Pa.
WILLIAM G. COLWELL,	Petersburg,	Dinwiddie,	Va.
JAMES W. DALE,	Wilmington,	Newcastle,	Del.
*BENJAMIN H. FELTWELL,	Philadelphia,		Pa.
JOSE S. FIGAROLA,	Havana,		Cuba.
GEORGE E. FORD,	Olney,	Philadelphia,	Pa.
JOHN GIBSON, Jr.,	Richmond,	Henrico,	Va.
*JOHN B. GOODMAN, M. D.,	Philadelphia,		Pa.
JESSE T. HALLOWELL,	Oxford Church,	Philadelphia,	Pa.
EDWARD B. HIGGINS,	Greensboro'	Guilford,	N. C.
*EZRA HOLDEN,	Philadelphia,		Pa.
WILLIAM H. JENKS,	Philadelphia,		Pa.
EDWARD J. KELLEY,	Kelleyville,	Delaware,	Pa.
BENJAMIN T. LAWS,	Philadelphia,		Pa.
JAMES LACKLISON, Jr.,	Savannah,	Chatham,	Ga.
SITGREAVES A. MASSEY,	Philadelphia,		Pa.
HOWARD McILVAIN,	Reading,	Berks,	Pa.
THOMAS B. MORRIS,	Brooklyn,	Kings,	N. Y.
FRANK PIERS,	Philadelphia,		Pa.
WALLACE F. RANDOLPH,	Philadelphia,		Pa.
FRANCIS Z. SCHELLENBERG,	Minersville,	Schuylkill,	Pa.
*JAMES W. STEEL,	Philadelphia,		Pa.
EDUARDO SAURESS,	Cardenas,		Cuba.
LOUIS TAWS, Jr., A. B.,	Richmond,	Philadelphia,	Pa.
*OSGOOD WELSH,	Philadelphia,		Pa.
*WILLIAM A. WURTS,	Philadelphia,		Pa.

### SUMMARY.

Number of Class	34
Academical Department	22
Total	56

\* Partial course students.